

1 I CLAIM:

2 1. (Amended) An improved apparatus for feeding flat, rigid, cuttable
3 material through a powered cutting means comprised of:

4 (a) an input non-skid continuous conveyor belt means, for moving the
5 material to be cut in a direction parallel to [its] the material's length to [at]
6 the cutting means;

7 (b) an output non-skid continuous conveyor belt means for moving the
8 material after it is cut in a direction parallel to [its] the material's length
9 away from the cutting means;

10 (c) a hold down means to hold the material to be cut against the non-
11 ski continuous conveyor belt means;

12 (d) a guide means to maintain [the position] a constant horizontal
13 relationship of the non-skid continuous conveyor belts [means] relative to
14 the cutting means;

15 (e) a drive means to power [in] the input non-skid continuous conveyor
16 belt and [an] the output non-skid continuous conveyor belt [means] so
17 [their rate of movement] both belts have the same operating revolutions
18 per minute [(RPM)) (fps) [is identical].

19 2. (Amended) Apparatus as defined in Claim 1, wherein said power
20 cutting means includes one or more circular saw blades adjustably positioned
21 along the length of a saw drive shaft and positioned between [an] the input non-
22 skid continuous conveyor belt means and [a] the output non-skid continuous
23 conveyor belt means, parallel to [their length] the belts' direction of travel and
24 powered by [a] the motor means communicating with the saw drive shaft.

25 3. (Amended) Apparatus as defined in Claim 1, wherein [said] both
26 non-skid continuous conveyor belt means include[s] a section of material having
27 a length greater than its width and having a non-skid top surface and a durable
28 bottom surface to which is bonded one or more guide 'V' belts, extending

1 parallel to and the entire length of the non-skid continuous conveyor belt and
2 extending a distance f[or]om the bottom surface of the non-skid continuous
3 conveyor belt and having a width so said guide 'V' belt engages a 'V' groove
4 in the drive means as defined in Claim 1, and having the lengthwise ends of the
5 material joined together to form a continuous conveyor belt.

6 4. (Amended) An apparatus as defined in Claim 1, wherein said drive
7 means to power [an] the input and output non-skid continuous conveyor belts
8 so their rate of movement feet per second [(RPM)] (fps) is identical includes an
9 inside feed roller on the input side and a feed roller at the input end, said rollers
10 and a feed bed spanning the distance between them, having 'V' grooves in their
11 faces of a size to accommodate the guide 'V' belt on the bottom surface of the
12 non-skid continuous conveyor belts [means], said non-skid continuous belts
13 [means] being securely fitted around said inside feed roller[s] and the feed
14 rollers by adjusting the mounting means for the feed rollers on the input and
15 output ends, wherein the end of the inside feed roller on the input side extends
16 beyond a right side cover and [its shaft] engages a timing belt which is turned
17 by the shaft of the inside feed roller on the output side which also extends
18 beyond the right side cover, said inside feed roller on the output side being
19 powered by a motor [means] at the end of [its shaft] the inside feed roller which
20 extends beyond a left side cover, so that both inside feed rollers travel at the
21 same revolutions per minute (RPM) which, in turn, results in the feed roller at
22 the input end of the feed roller at the output end also revolving at the same
23 RPM, being passively driven only by the non-skid continuous conveyor means.

24 5. (Amended) An apparatus as defined in Claim 1, wherein the hold
25 down means to hold the material to be cut against [a] the non-skid continuous
26 conveyor belt [means] includes a plurality of hold down rollers and non-marring
27 surfaces, held down against the material to be cut by a spring loaded arm
28 means, so said material to be cut is held in contact with the non-skid

1 continuous conveyor belt [means] and in constant relation to the [cutting
2 means] circular saw blades as [it] the material passes through the [cutting
3 means] circular saw blades.

4 6. (Amended) An apparatus as defined in Claim 2, wherein the
5 [powered cutting means is] one or more circular saws, suitable for cutting wood
6 boards, [and] are capable of being set along the length of the saw drive shaft
7 by remote means, either manually or by computer.

8 7. (Amended) An apparatus as defined in Claim 3, wherein the non-
9 skid continuous conveyor belt means is 9/32 inch thick and comprised of a non-
10 skid top surface of No. 37 Scandara Red Carbox Rough Top on 3 ply 135 pound
11 polyester with a bottom surface of Friction Surface (Caroxilated nytril X.F.S.),
12 to which is bonded one or more Browning Manufacturing Company Grip Notch
13 grip belts, commonly known a an "A" section belt, and having scallop-shaped
14 cuts partially through its thickness across its width and regularly spaced along
15 its length parallel to the length of the non-skid continuous conveyor belt.

16 8. (Amended) An apparatus as defined in Claim 5 wherein the hold
17 down means to hold the material to be cut against [a] the non-skid continuous
18 conveyor belt includes a plurality of hold down rollers with non-marring
19 surfaces, held down against the material to be cut by a pneumatic cylinder
20 loaded are [means], so said material to be cut is held in contact with the non-
21 skid continuous conveyor belt [means] and in constant relation to the [cutting
22 means] circular saw blades as [it] the material passes through the [cutting
23 means] circular saw blades.

24 9. An apparatus as defined in Claim 1, wherein the input non-skid
25 continuous conveyor belt means and the output non-skid continuous conveyor
26 belt means are comprised of a single non-skid continuous conveyor belt means
27 for use in situations where the powered cutting means does not come into
28 interference with the non-skid continuous conveyor belt means.

1 10. An apparatus as defined in Claim 1, wherein the improved apparatus
2 is combined in series with one or more other units of the improved apparatus
3 so that multiple cutting or shaping means may be applied to the flat, ridged,
4 cuttable material.

5 11. An apparatus as defined in Claim 1, wherein said power cutting
6 means includes one or more high pressure abrasive cutting means.

7 12. An apparatus as defined in Claim 1, wherein one or more cutting
8 means are comprised of router cutters.

9 13. Cancelled

10 14. An improved apparatus for feeding wood based cuttable material
11 having length greater than width through a powered cutting means comprised
12 of:

13 a) a powered cutting means which includes one or more circular saw
14 blades adjustably positioned along a saw drive shaft and positioned
15 between an input non-skid continuous conveyor belt means and an output
16 non-skid continuous conveyor belt means, for moving material to be cut
17 in a direction parallel to the material's length, and powered by a motor
18 communicating with the saw drive shaft;

19 b) an input non-skid continuous conveyor belt means, for moving the
20 material to be cut in a direction parallel to the material's length to the
21 circular saw blades, being comprised of a section of material having a
22 length greater than its width and having a non-skid top surface and a
23 durable bottom surface to which is bonded one or more guide 'V' belts,
24 extending the length of the input non-skid continuous conveyor belt and
25 extending a distance from the bottom surface of the input non-skid
26 continuous conveyor belt and having a width so said guide 'V' belt
27 engages a 'V' groove in a drive means to power the input non-skid
28 continuous conveyor belt, and said input non-skid continuous conveyor

1 belt having the opposite edges of its length joined together to form a
2 continuous belt;

3 c) an output non-skid continuous conveyor belt means, for moving the
4 material after it is cut in a direction parallel to the material's length away
5 from the circular saw blades, being comprised of a section of material
6 having a length greater than its width and having a non-skid top surface
7 and a durable bottom surface to which is bonded one or more guide 'V'
8 belts, extending the length of the output non-skid continuous conveyor
9 belt and extending a distance from the bottom surface of the output non-
10 skid continuous conveyor belt and having a width so said guide 'V' belt
11 engages a 'V' groove in a drive means to power the output non-skid
12 continuous conveyor belt, and said output non-skid continuous conveyor
13 belt having the opposite edges of its length joined together to for a
14 continuous conveyor belt;

15 d) a drive means to power the input non-skid continuous conveyor belt
16 and the output non-skid continuous conveyor belt, so the rate of
17 movement (feet per second fps) of the belts is identical, being comprised
18 of an inside feed roller and a feed roller separated by a feed bed, around
19 which is stretched the input non-skid continuous conveyor belt, as
20 described above, with the inside feed roller being at the end of the input
21 non-skid continuous conveyor belt closest to the circular saw blades and
22 an inside feed roller and a feed roller separated by a feed bed, around
23 which is stretched the output non-skid conveyor belt with the inside feed
24 roller being at the end of the output non-skid continuous conveyor belt
25 closest to the circular saw blades, each non-skid continuous conveyor
26 belt being securely fitted around the inside feed roller and the feed roller
27 by adjusting the mounting means for the feed roller, while the end of both
28 inside feed rollers on the same side of the improved apparatus extend

1 beyond the side cover and engage a timing belt which is powered by the
2 shaft of the inside feed roller on the output side, which inside feed roller
3 is powered by a motor at the end thereof which extends from the
4 opposite side of the improved apparatus, so that both inside feed rollers
5 travel at the same revolutions per minute (RPM) which, in turn, results in
6 the feed roller at the input end and the feed roller at the output end also
7 revolving at the same revolutions per minute (RPM), both being passively
8 driven only by the non-skid continuous conveyor belts, and the 'V' belt
9 engages the 'V' groove in the feed beds and feed rollers with the result
10 that the non-skid continuous conveyor belts do not move horizontally on
11 the rollers, the material does not move horizontally while being cut, and
12 the material moves at a constant rate (fps) through the improved
13 apparatus;

14 e) a hold down means to hold the material to be cut against the non-
15 skid continuous conveyor belt being comprised of a plurality of hold down
16 rollers with non-marring surfaces, held down against the material to be
17 cut by spring pneumatic cylinder loaded arm means, so said material to
18 be cut is held in contact with the non-skid continuous conveyor belts and
19 in constant relation to the circular saw blades as the material to be cut
20 passes through the improved apparatus.
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